

DIE BONDING APPARATUS WITH
AUTOMATIC DIE AND LEAD FRAME IMAGE MATCHING SYSTEM

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ABSTRACT

A vision system that compares the captured images of a die and a lead frame loaded in a die bonding apparatus with stored images thereof, and interrupts the die bonding process when the captured images fail to match the stored images. The images are directed to distinctive features of the die (e.g., the positioning and size of the die bonding pads) and lead frame (e.g., positioning and size of the leads) that differ between various die and lead frames having similar sizes. A first camera captures the lead frame image, and a second camera captures the die image. The captured die and lead frame images are digitized and passed to a computer, which compares the captured images with previously stored images. When a mismatch is detected, the computer generates an error signal that shuts down the die bonding apparatus.